

## ABSTRACT

A transmitter shown in FIG. 3 inputs to a mixer 36 an IF band modulation signal generated from transmission data and a frequency hopping signal obtained by a hopping synthesizer 38 controlled by a hopping pattern generator 37, thereby obtaining a frequency hopping radio signal to be transmitted. In a receiver shown in FIG. 4, a received signal is amplified and an unnecessary wave is removed from the signal, and the resultant signal is input to a mixer 44. The mixer 44 receives an output signal of a hopping synthesizer 47 controlled by a signal obtained by adding a fixed frequency offset signal to the hopping pattern generator 45. A signal downconverted to a first IF band without frequency hopping corresponding to the offset signal with a radio frequency band signal maintaining the relative spectrum relationship appears in the output of the mixer 44. An unnecessary wave of the signal is removed, a square unit 49 performs square detection, and a modulation signal in the intermediate frequency band used by the source is regenerated. The obtained IF band signal is modulated, thereby receiving desired data.